TAPE AND REEL PACKING SPECIFICATION

1 - PURPOSE :

This specification is formulated to provide dimensions, tolerances and characteristics about tape and reel necessary to surface mount components sO that they may be automatically placed. This specification covers taping for active surface mount components in SOIC and TSSOP package types.

2 - REFERENCE DOCUMENTS

2 - 1 . “EIA 481-A”

2 - 2 . “IEC 286-3”

2 - 3 . “Special customer request”

3 - GENERAL

3 - 1 . Reel material = Plastic antistatic or conductive

3 - 2 . Cavity tape material = Black conductive (less than 10^{5W} per square)

3 - 3 . Cover tape material = Transparent antistatic (less than 10^{10W} per square) or conductive (less than 10^{5W} per square)

4 - QUANTITY AND DIMENSIONS

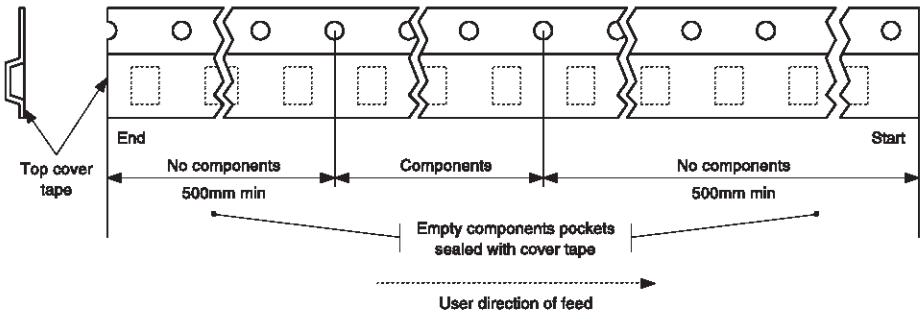
All drawing dimensions are in millimeters.

TABLE 1

PACKAGE	TAPE WIDTH (mm)	QTY / REEL
Flip Chip	8	3000
Mini SO8	12	4000
SO8	12	2500
SO14	16	2500
SO16 (narrow)	16	2500
SO20	24	1000
SOT23-3/SOT23-5	8	3000
TSSOP8	12	4000
TQFP44	24	1000
TQFP48	16	2400
TSSOP14/16	16	2500
TSSOP28	16	2500

4 - 2 . LEADER AND TRAINER

FIGURE 1

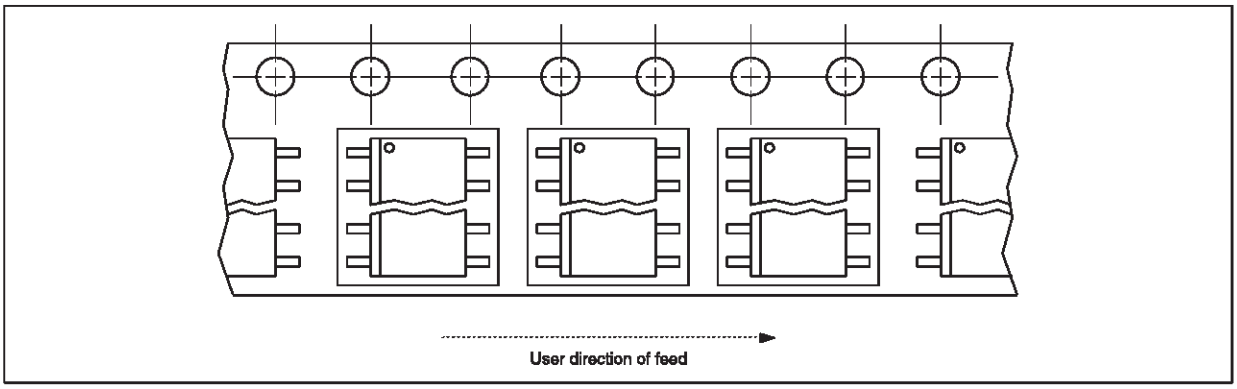


TAPE & REEL SPECIFICATION

The trailer end of the tape carrier is secured to the reel.
The devices are oriented with the terminals facing to the bottom of the carrier pocket.

4 - 3 . DEVICES ORIENTATION FOR SOIC 8/14/16/20 AND TSSOP8/14/16/28

FIGURE 2



The devices are oriented in the carrier pocket with pin number 1 adjacent to the sprocket holes.

4 - 4 . OVERALL REEL DIMENSIONS FOR SOIC 8/14/16/20

FIGURE 3

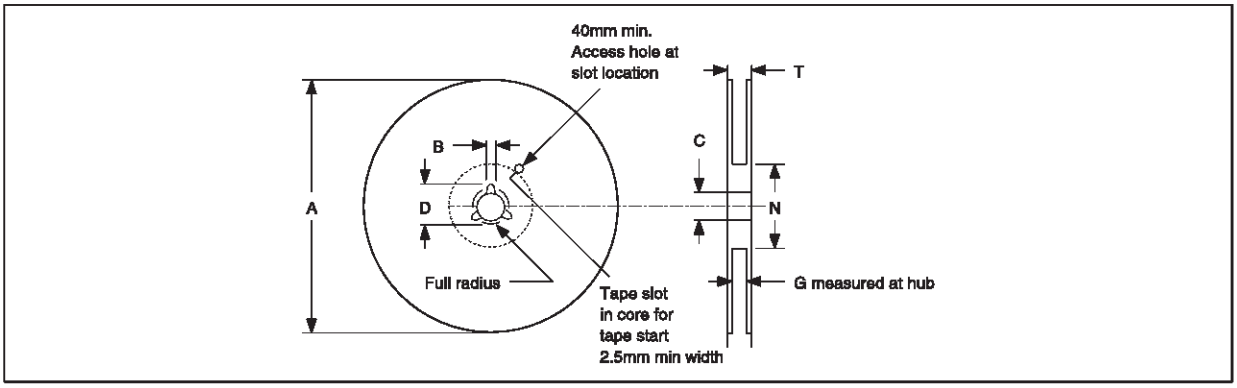
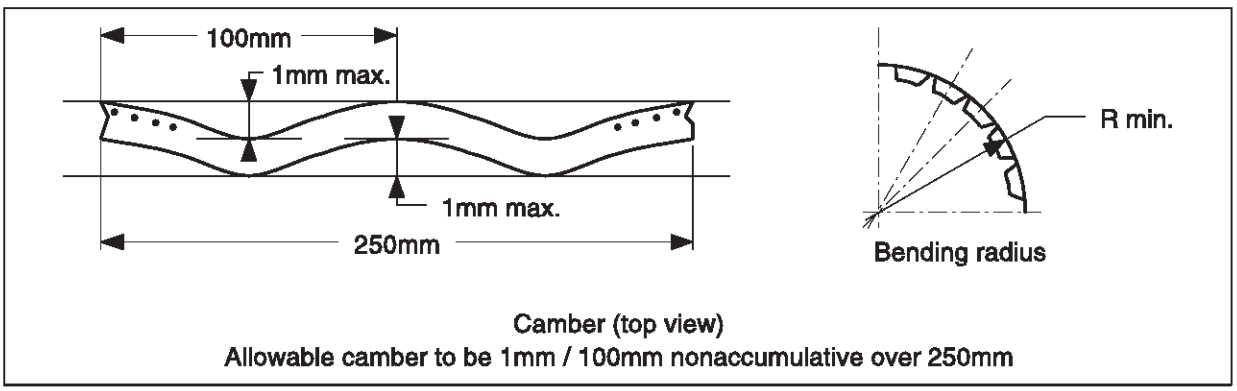


FIGURE 4



4 - 4 . OVERALL REEL DIMENSIONS FOR SOIC 8/14/16/20 (continued)

TABLE 2

Tape Size	A max	B min	C	D min	N min	G	T max	R min
8 mm	180	1.5	13 – 0.2	20.2	55	8.4 +2/-1	14.4	30
12 mm	330	1.5	13 – 0.2	20.2	60	12.4 +2/-0	18.4	30
16 mm	330	1.5	13 – 0.2	20.2	60	16.4 +2/-0	22.4	40
24 mm	330	1.5	13 – 0.2	20.2	60	24.4 +2/-0	30.4	50

4 - 5 . CARRIER POCKET DIMENSIONS FOR SOIC 8/14/16/20

FIGURE 5

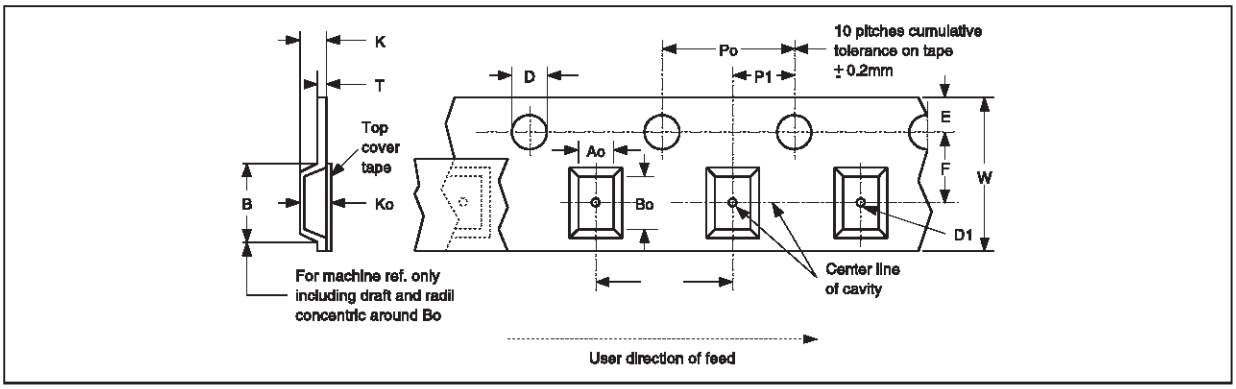


TABLE 3

Tape Size	D	E	P_O	T	A_O	B_O	K_O
8 mm	1.5 +0.1/0	1.75 – 0.1	4 – 0.1	0.3	See note		
12 / 16 mm	1.5 +0.1/0	1.75 – 0.1	4 – 0.1	0.4	See note		
24 mm	1.5 +0.1/0	1.75 – 0.1	4 – 0.1	0.4	See note		

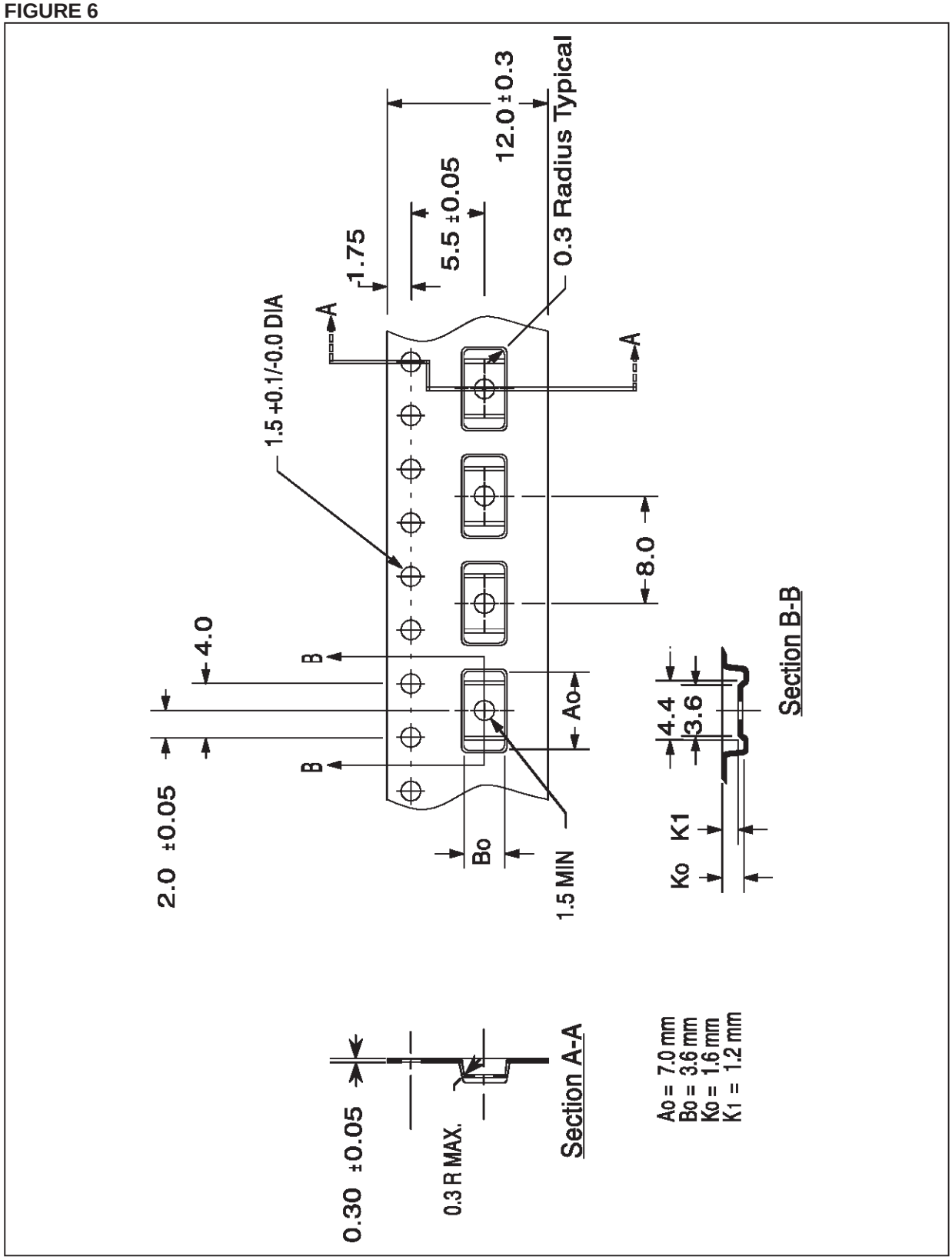
TABLE 4

Tape Size	B_1 max	D_1 min	F	K max	P_2	W
8 mm	4.2	1.5	3.5 – 0.05	2.4	2 – 0.05	8 – 0.3
12 mm	8.2	1.5	5.5 – 0.05	4.5	2 – 0.05	12 – 0.3
16 mm	12.1	1.5	7.5 – 0.1	6.5	2 – 0.1	16 – 0.3
24 mm	20.1	1.5	11.5 – 0.05	6.5	2 – 0.1	24 – 0.3

Note : Ao, Bo and Ko are determined by components size. The clearance between the component and the carrier pocket is :
a - 0.05 mm minimum to 0.65 mm maximum for 12 mm tape
b - 0.05 mm minimum to 0.90 mm maximum for 16 mm tape
d- 0.05mm minimum to 1.00 mm maximum for 24 mm tape

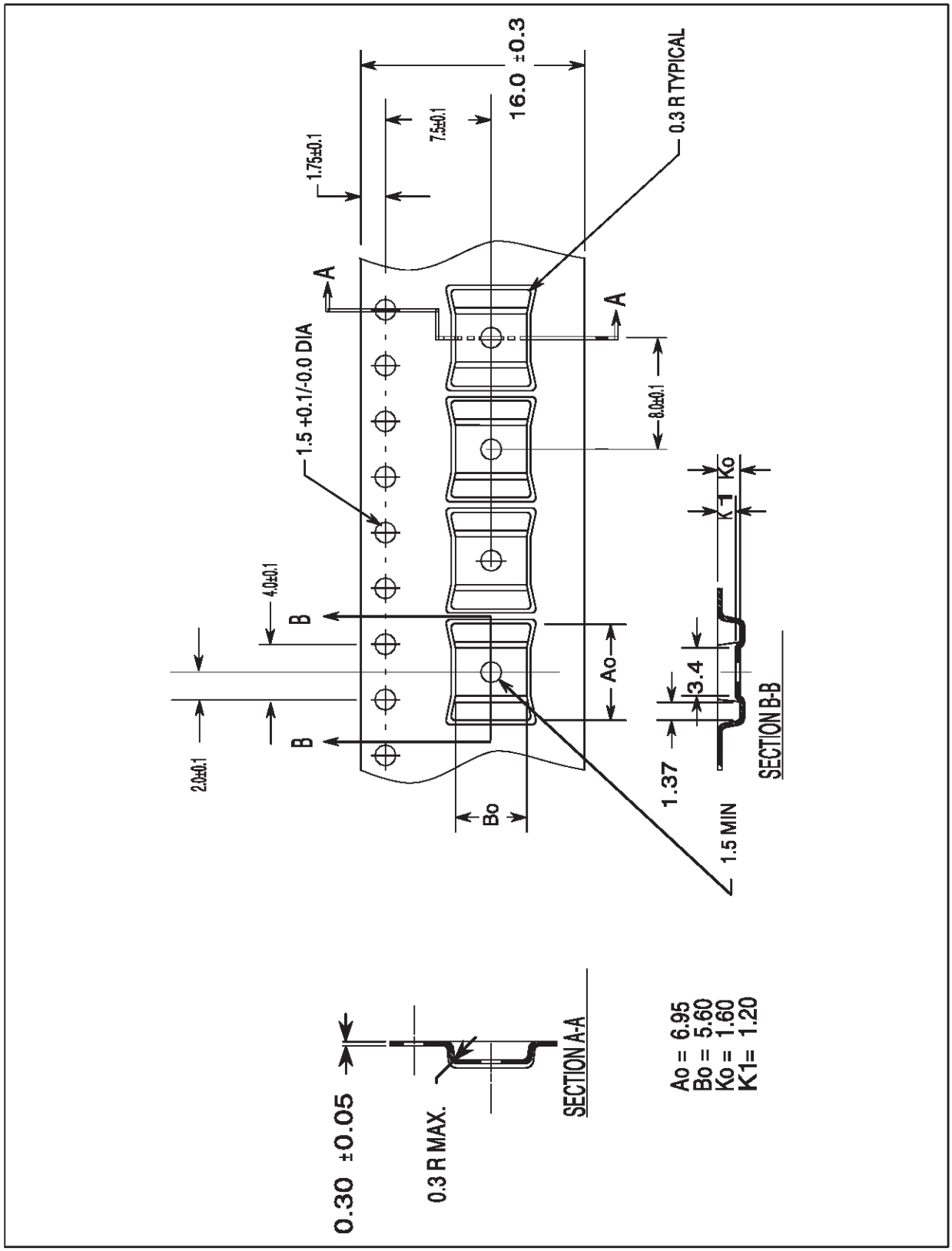
4 - 6 . CARRIER TAPE FOR TSSOP 8L

FIGURE 6



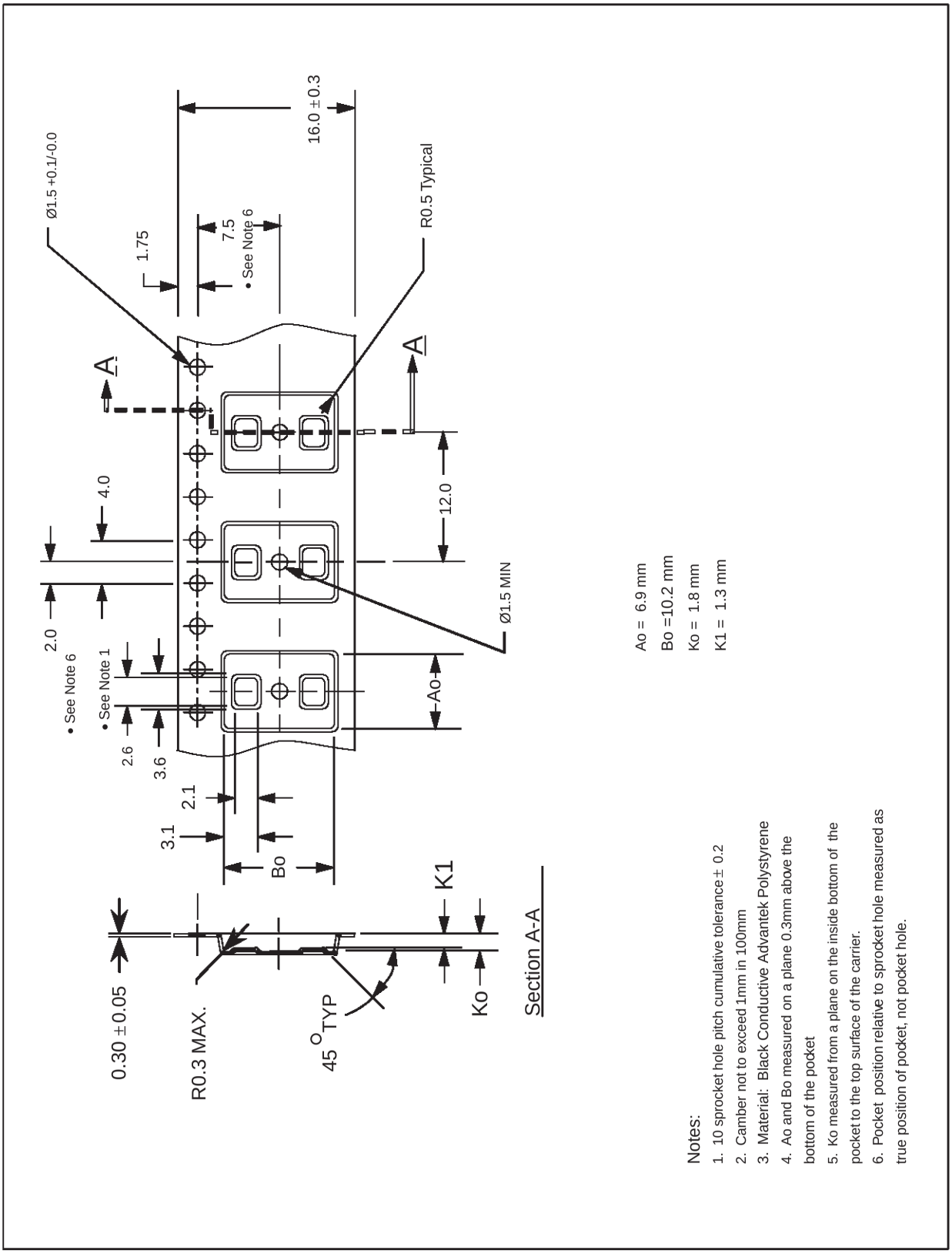
4 - 7 . CARRIER TAPE FOR TSSOP 14L/16L

FIGURE 7

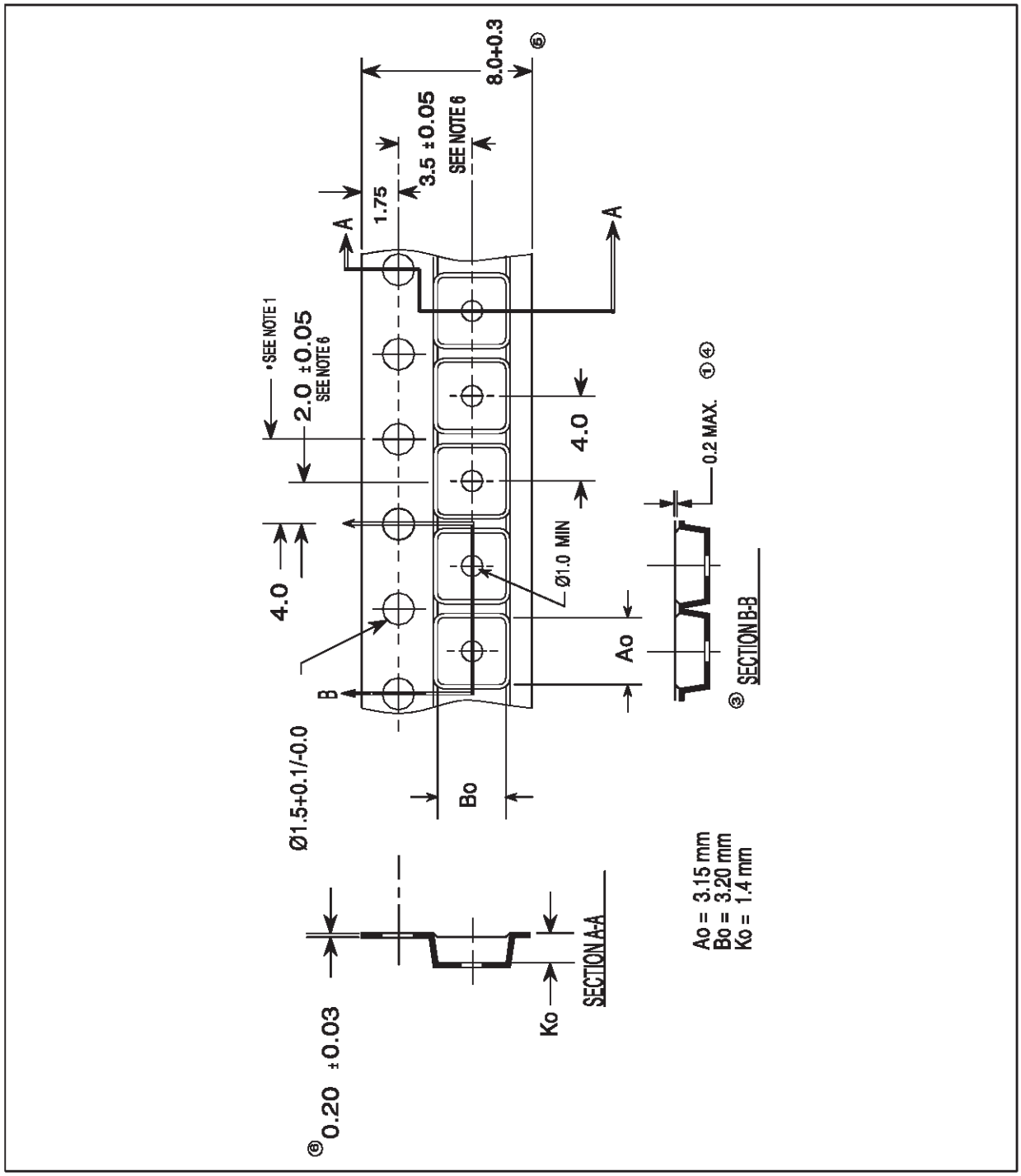


4 - 8 . CARRIER TAPE FOR TSSOP 28L

FIGURE 8

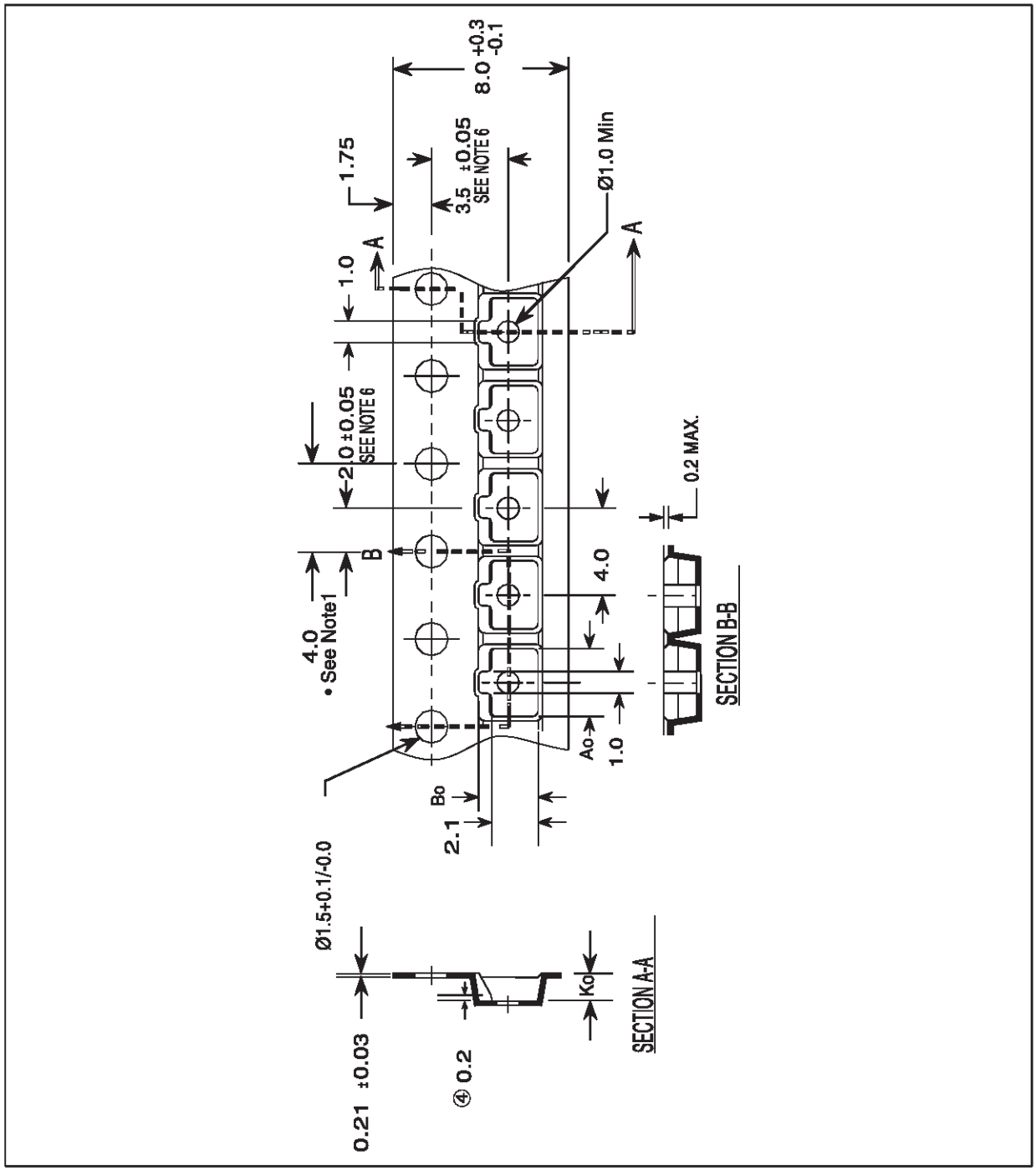


4 - 9 . CARRIER TAPE FOR SOT23-5/6 LEADS



Notes : 1. 10 sprocket hole pitch cumulative tolerance –0.2
2. Camber not to exceed 1mm in 100mm
3. Material: Conductive Black Advantek Polystyrene
4. Ao and Bo measured on a plane 0.3mm above the bottom of the pocket
5. Ko measured from a plane on the inside bottom of the pocket to the top surface of the carrier
6. Pocket position relative to sprocket hole

4 - 10 . CARRIER TAPE FOR SOT23-3 LEADS



Notes : 1. 10 sprocket hole pitch cumulative tolerance –0.2
2. Camber not to exceed 1mm in 100mm
3. Material: Conductive Black Advantek Polystyrene
4. Ao and Bo measured on a plane 0.3mm above the bottom of the pocket
5. Ko measured from a plane on the inside bottom of the pocket to the top surface of the carrier
6. Pocket position relative to sprocket hole measured as true position of pocket, not pocket hole